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09/634,908	08/09/2000	Alex S. Toback	TOB/101/US	5338

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EXAMINER


VARNER, STEVE M

ART UNIT	PAPER NUMBER
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3635

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

 Office Action Summary	Application No. 09/634,908	Applicant(s) TOBACK, ALEX S.	
	Examiner Steve M Varner	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Wallace.

Regarding claim 1, Dixon et al. shows a masonry support structure and a fastener received in said masonry support structure (Fig. 1). Dixon et al. shows head means (14) comprising a generally planar engagement surface and drive means for receiving an applied torque; a shank (16) axially extending from said head means at a proximal end to a distal end terminating at a tip (18), said shank comprising a proximal portion defining a first diameter adjacent said shank proximal end and a distal portion having a second diameter less than said first diameter adjacent said shank distal end (Abstract) (Col. 1, 65-end), a first thread extending helically along a portion of said proximal portion and a second thread extending helically along a portion of said distal portion (Fig. 1).

Dixon et al. does not show said shank distal end defining material transfer means within said second diameter extending from a location adjacent said tip to a location adjacent said second thread. Waud teaches said shank distal end defining material transfer means (16) within said second diameter extending from a location adjacent

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said tip to a location adjacent said second thread (Fig. 4). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use material transfer means as in Waud in the structure of Dixon et al. to increase the depth of the bore.

Dixon et al. does not show coating comprising a resin or an adhesive in a micro-encapsulated form disposed over at least one of the group consisting of said shank distal portion, said shank proximal portion, said first thread and said second thread; Wallace shows a resin or an adhesive in a micro-encapsulated form disposed over at least one of the group consisting of said shank distal portion, said shank proximal portion, said first thread and said second thread. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use resin as in Wallace in the structure of Dixon et al. to bind the threads with the hole.

Dixon et al. does not show self-drilling means adjacent said shank tip for drilling into said support structure. Waud shows self-drilling means (16) adjacent said shank tip for drilling into said support structure (Fig. 4). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use self-drilling means as in Waud in the structure of Dixon et al. to drill into the bore for greater adhesion.

Regarding claim 2, see claim 1.

Regarding claim 3, Dixon et al. shows the basic claimed structure. Dixon et al. does not show a laterally extending wing extending from said shank distal portion. Waud shows a laterally extending wing (18) extending from said shank distal portion. It

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would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a wing as in Waud in the structure of Dixon et al. to restrict further penetration of the distal threads into a hole drilled by the self-drilling means.

Regarding claim 6, Dixon et al. shows wherein said first thread defines a first thread crest diameter, which is substantially equal over the length of said first thread and said second thread crest diameter is substantially equal over the length of said second thread (Fig. 1).

Regarding claim 7, It would have been an obvious design choice for the coating is a polymer since this would act to bond the threads with the hole.

Regarding claim 8 and 9, Dixon et al. shows a protuberance (23) extending helically between adjacent convolutions of at least one of said first (20) or second (19) threads wherein the protuberance has a crest diameter less than that of adjacent convolutions (Fig. 1).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Wallace in further view of Regensburger.

Regarding claim 4, Dixon et al. in view of Waud and Wallace does not show self-drilling means comprises a carbide drill point. Regensburger a carbide drill bit. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a carbide drill bit as in Regensburger in the structure of Dixon et al. in view of Waud and Wallace since carbide is a strong material for a drill bit.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Wallace in further view of Hasan et al.

Regarding claim 5, Dixon et al. in view of Waud and Wallace shows the basic claimed structure. Dixon et al. in view of Waud and Wallace does not show wherein said first and second threads are buttress threads. Hasan et al. shows buttress threads (Col. 4, Line 15-20). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use buttress threads as in Hasan et al. in the structure of Dixon et al. in view of Waud and Wallace to buttress the driving face of the thread.

Claims 10-14, 16, 19, 20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Duffy et al.

Regarding claim 10, Dixon et al. teaches head means (14) comprising a generally planar engagement surface and drive means for receiving an applied torque; a shank (16) axially extending from said head means at a proximal end to a distal end terminating at a tip (18) (Fig. 1).

Dixon et al. does not show self-drilling means for drilling into said support structure, said shank comprising a proximal portion adjacent said shank proximal end, a first intermediate portion adjacent said proximal portion, a second intermediate portion between said first intermediate portion and said tip and a thread extending helically along said intermediate portions. Waud shows a self-drilling means (16) for drilling into said support structure, said shank comprising a proximal portion (28) adjacent said shank proximal end, a first intermediate portion (C) adjacent said proximal portion, a second intermediate portion (B) between said first intermediate portion and said tip (16) and a thread extending helically along said intermediate portions (Fig. 1). It would have

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been obvious to one of ordinary skill in the art at the time the present invention was made to use a self-drilling tip as in Waud in the structure of Dixon et al. to drill into the masonry structure to produce a strong connection between the fastener and the masonry structure.

Dixon et al. does not show a resin bead applied to said first intermediate portion. Duffy et al. shows a resin patch (20) (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to degrade it into a bead on the intermediate portion to lock the fastener in place.

Regarding claim 11, Dixon et al. in view of Waud shows the basic claimed structure. Dixon et al. in view of Waud does not show wherein said bead is composed of a hardener, a resin and nylon powder. Duffy et al. shows a patch (20) composed of a hardener, a resin and nylon powder (Col. 3, Line 10-30). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a hardener, a resin and nylon powder bead, which is a degradation of a patch, as in Duffy et al. in the structure of Dixon et al. in view of Waud since this product has been found useful for this purpose (Col. 3, Line 19).

Regarding claim 12, Dixon et al. in view of Waud shows the basic claimed structure. Dixon et al. in view of Waud does not show the bead has a generally cardioid-shaped configuration, which subtends substantially 360 degrees around the axis of the shank. Duffy et al. shows a resin patch (20) (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to

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modify the patch into a cardioid shape to lock the fastener in place all the way around the fastener.

Regarding claim 13, Applicant fails to show criticality for 30% nylon powder by volume; therefore, this percentage would be an obvious design choice for desired properties.

Regarding claim 14, Applicant fails to show criticality for the bead is composed of a formulation that was made with approximately five milliliters of hardener, five milliliters of resin and five milliliters of nylon powder; therefore, this would be an obvious design choice for desired properties.

Regarding claim 16, Dixon et al. shows the basic claimed structure. Dixon et al. does not show a radially extending wing extending from said shank distal portion. Waud shows a radially extending wing (18) extending from said shank distal portion (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a wing as in Waud in the structure of Dixon et al. to restrict further axial movement of the fastener upon hitting the end of the bore.

Regarding claim 19, Applicant fails to show criticality for said thread has a generally uniform axial spacing S and said proximal portion extends axially a distance ranging between 2-3 S and said first intermediate portion extends axially a distance approximately 4-5 S; therefore, it would have been an obvious design choice for desired properties.

Regarding claim 20, Dixon et al. teaches head means (14) comprising a engagement surface and drive means for receiving an applied torque; a shank (16)

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axially extending from said head means at a proximal end to a distal end terminating at a tip (18) (Fig. 1).

Dixon et al. does not show self-drilling means for drilling into said support structure, said shank comprising a proximal portion adjacent said shank proximal end, a intermediate portion between said proximal portion and said tip, and a thread extending helically along said intermediate portions. Waud shows a self-drilling means (16) for drilling into said support structure, said shank comprising a proximal portion (28) adjacent said shank proximal end, a first intermediate portion (C) between said proximal portion and said tip, and a thread extending helically along said intermediate portion (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a self-drilling tip as in Waud in the structure of Dixon et al. to drill into the masonry structure to produce a strong connection between the fastener and the masonry structure.

Dixon et al. does not show an epoxy resin bead applied to said first intermediate portion. Duffy et al. shows a resin patch (20) (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to degrade it into a bead on the intermediate portion to lock the fastener in place. Applicant fails to show criticality for the epoxy; therefore, this feature would have been an obvious design choice for a strong bead.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Duffy et al. in further view of Wallace.

Regarding claim 15, Dixon et al. in view of Waud and Duffy et al. does not show coating comprising an adhesive in a microencapsulated form applied to the second intermediate portion. Wallace shows an adhesive in a microencapsulated form applied to the second intermediate portion. It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use adhesive as in Wallace in the structure of Dixon et al. in view of Waud and Duffy et al. to bind the threads with the hole.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Duffy et al. in further view of Regensberger.

Regarding claim 17, Dixon et al. does not show a carbide drill point. Regensberger shows a carbide drill point (5) (Abstract). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use a carbide drill point as in Regensberger in the structure of Dixon et al. as a strong drill point to penetrate masonry.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dixon et al. in view of Waud and Duffy et al.

Regarding claim 18, Dixon et al. in view of Waud and Duffy et al. shows the basic claimed structure. Dixon et al. in view of Waud and Duffy et al. does not show wherein said thread is buttress thread. Hasan et al. shows buttress threads (Col. 4, Line 15-20). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to use buttress threads as in Hasan et al. in the structure of Dixon et al. in view of Waud to buttress the driving face of the thread.

Response to Arguments

Applicant's arguments filed 9/8/03 have been fully considered but they are not persuasive.

Applicant notes that he can find nothing in Nystrom on an adhesive coating on a fastener that is suitable for bonding to a painted surface.

Examiner maintains that bonding to a painted surface is not claimed.

Applicant argues that the wings of Waud are for a different purpose.

Examiner maintains that they would perform a similar purpose, ie restricting the depth that the fastener penetrates into a bored hole, in a masonry structure; however, the purpose is not claimed.

Applicant argues that self drilling means are not taught by Dixon et al.

Examiner maintains that self drilling means are taught by Waud.

Applicant argues that the protuberance has a crest diameter less than that of the adjacent convolutions.

Examiner maintains that the protuberance of Dixon et al. has a crest diameter less than that of the adjacent convolutions.

Applicant argues that a bead of resin is not shown.

Examiner argues that it would be obvious to degrade the resin of Duffy et al. into a bead.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Daubinger et al. teaches a self-drilling screw. Takasaki presents a wood screw. Toback et al. shows a metal panel fastener.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is 703 308-1894. The examiner can normally be reached on M-F 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl D Friedman can be reached on 703 308-08390839. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1113.



SV
February 17, 2005



BRIAN E. GLESSNER
PRIMARY EXAMINER